

**ABSTRACT**

A decontamination method for stripping radionuclides from the surface of stainless steel or aluminum material comprising the steps of contacting the metal with a moderately acidic carbonate/bicarbonate electrolyte solution containing sodium or potassium ions and thereafter electrolytically removing the radionuclides from the surface of the metal whereby radionuclides are caused to be stripped off of the material without corrosion or etching of the material surface.